

Fut
Electrostatic
Graphics Printer.

SJ 71

\$9450

+ \$3500

620 interface <sup>for C.S.
(unnecessary)</sup>

\$1500

→ 11 interface \$2500

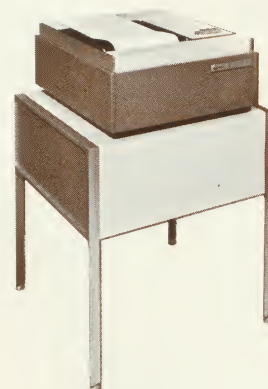


varian data machines / graphics and data systems

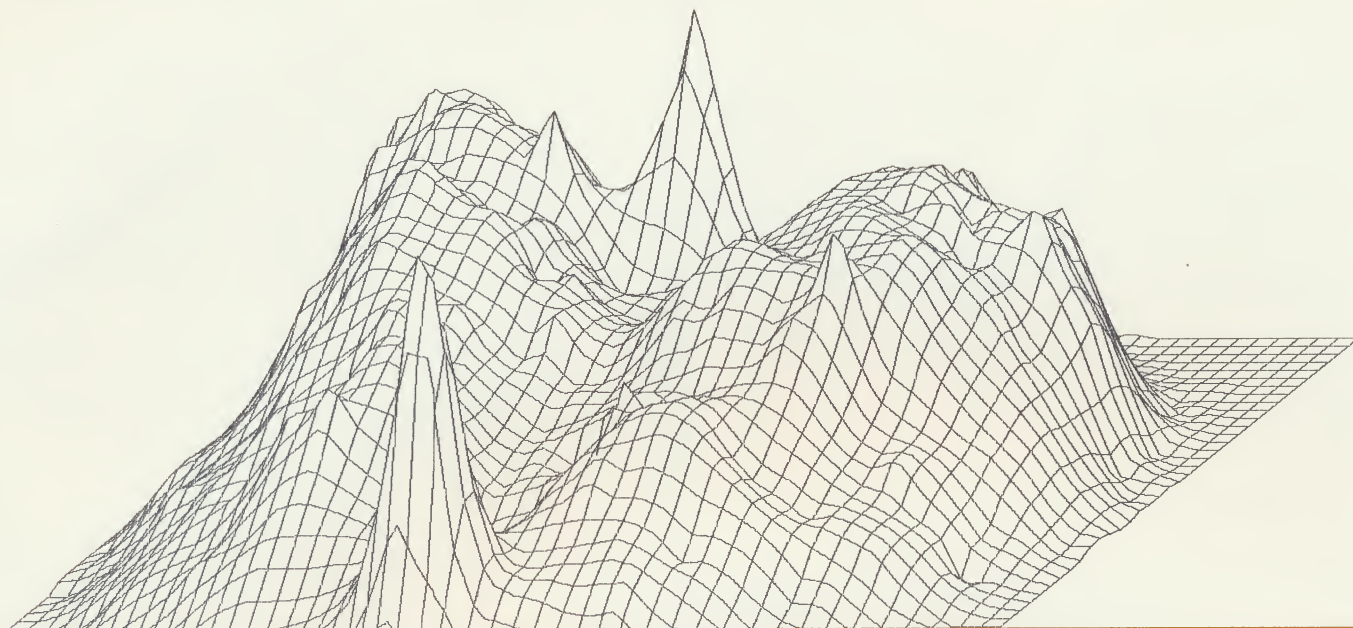




STATOS 21

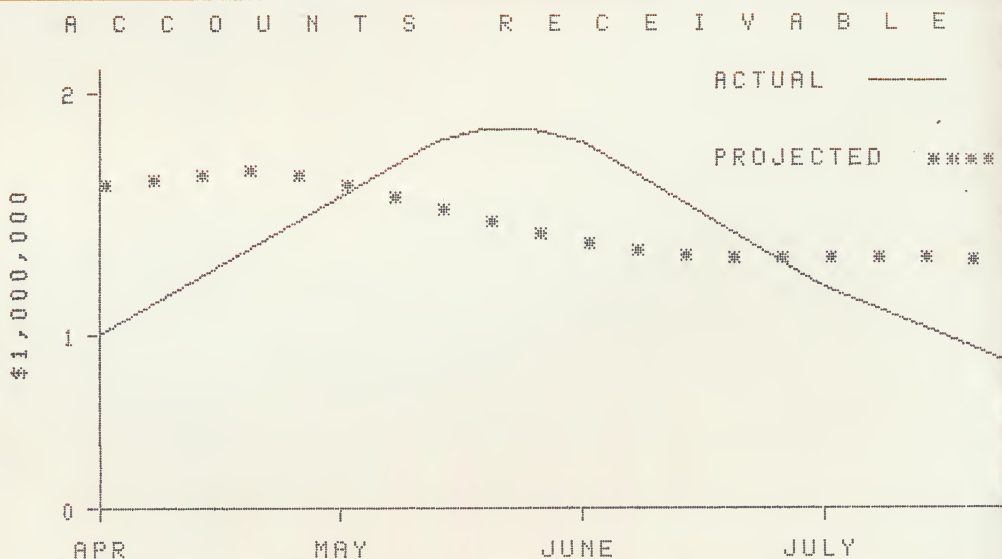
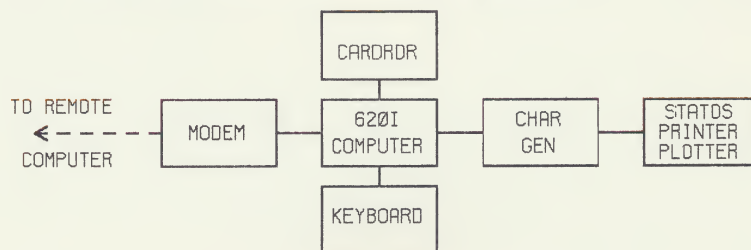


The Statos® 21, first in a new family of Varian non-impact printer/plotters, is the fastest hardcopy output device you can buy. And flexible! In addition to the electrostatic writing technique pioneered by Varian, Statos 21 features plug-compatibility with your computer. Complete turnkey systems are backed by Varian's extensive computer experience and systems know-how. Statos 21 represents a total graphics capability that cannot be surpassed!



STATOS 21 - A GENERAL-PURPOSE DIGITAL PRINTER/PLOTTER - IS THE FASTEST HARDCOPY OUTPUT DEVICE YOU CAN BUY. ITS USES IN ALPHANUMERIC AND GRAPHIC DISPLAYS ARE LIMITED ONLY BY YOUR IMAGINATION. STATOS 21 IS PARTICULARLY APPLICABLE AS AN ON-LINE PRINTER/PLOTTER COMPUTER PERIPHERAL AND AS A RECEIVE-ONLY TERMINAL USED IN SCIENTIFIC DATA AND MANAGEMENT INFORMATION SYSTEMS. COMPLETE TURNKEY SYSTEMS ARE BACKED BY THE EXTENSIVE COMPUTER EXPERIENCE AND SYSTEMS KNOW-HOW OF GRAPHICS AND DATA SYSTEMS, VARIAN DATA MACHINES. STATOS 21 REPRESENTS A TOTAL GRAPHICS CAPABILITY THAT CANNOT BE SURPASSED!

THE STATOSSYSTEM 1100, A COMPUTER TERMINAL...



003010	006020	177777	101135	003016	001000	003012	001100	003040
003020	103235	101235	003025	001000	003020	006010	005000	005311
003030	001010	003034	001000	003027	104435	100535	001000	003012
003040	100535	006010	012500	027331	001010	003012	001000	003043
003050	005000	003072	006140	077777	001010	003067	005041	006120
003060	000006	005014	001000	003047	005000	005000	005000	013333
003070	123332	053333	016000	146001	053335	055005	005211	005111
003100	001010	003107	001000	003115	005000	005000	005000	006010
003110	002460	055000	001000	003310	005000	016002	055001	016003
003120	146002	053331	001010	003131	001000	003140	005000	005000
003130	005000	000000	002462	055000	013335	055002	001000	003310
003140	001002	003147	005211	005111	005000	005000	005000	053334
003150	055004	013331	001004	003233	013334	143335	001004	003203
003160	001010	003221	013334	055002	006010	002607	055000	005000

high speed printing with versatile plotting Statos 21, Model 2110 features high speed printing and plotting directly from your data source. The non-impact writing technique used in Statos machines provides a range of dot patterns for creating plots limited only by your imagination. And with a Varian software package for your computer, you can plot annotated charts and graphs — anything you can program — at the fastest rates now possible!

Model 2111 offers line printing at 5000 lines per minute with hardware character generation, reducing software and returning valuable time and core to your computer. Characters are written with this unit as easily as with a conventional line printer — with the tremendous advantage of simultaneous plotting! Two sizes and four orientations of characters are provided for versatility.

a complete problem solution As a computer peripheral, Statos 21 joins earlier Varian printer/plotters in the Statosystem concept: Software and interfaces to popular computing equipment are provided to yield a complete problem solution. Statos 21 operates on-line or off-line from large or small computers. Four basic systems provide (1) on-line printing and plotting in which hardcopy output is available directly from a central processor, (2) remote terminal printing and plotting in which data are received from a communication channel, (3) satellite printing and plotting in which a minicomputer directs the Statos 21 in outputting from tape or disk storage, and (4) off-line printing and plotting in which Statos 21 is controlled directly from magnetic tape. Both driver and diagnostic software are provided with all interfaces. In addition, general purpose plotting routines (GPR) and application software are available. Ask for our GPR software bulletin.

fast and easy to use

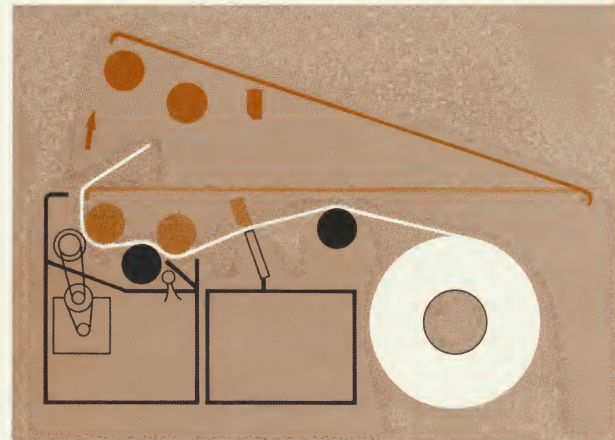
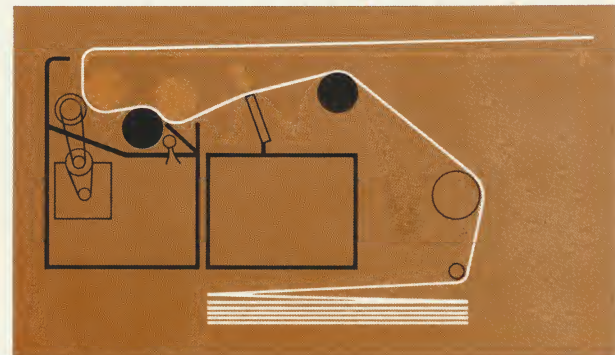
page-a-second printing The phenomenal printing rate of Statos 21 is best visualized in terms of a full 80 column by 88 line page of text appearing once a second! This is four times the printing speed of the fastest "high speed" impact line printers available at anywhere near the cost. Tremendous reduction in turn-around time is provided by Statos 21 in any data processing application:

Core dumps and tape dumps are available literally in seconds, saving invaluable debugging time on large systems. Important top-management summaries can be generated in minutes, while the bulk printing may continue for hours. Quick-look techniques allow errors to be removed from complex plotting routines before wasting hours of high resolution, large format plot time. Graphs and histograms may be combined with normal alphanumeric printing to condense information, further reducing the elapsed time from data origination to high level decisions.

Nearly every data processing installation in existence today could benefit from the advantages presented by Statos 21. Systems analysts who recognize the *time value* of the data in process will find the alternative to normal line printing offered by Statos 21 an attractive one.

z-fold paper At last this much-sought feature appears with a non-impact printer! Statos 21 uses either roll or Z-fold paper, permitting the operator to make the choice most advantageous for his printing or plotting application. The 8½ inch width of the paper allows Statos 21 to reproduce 80 characters across the page, e.g., card images (80 columns), teletype listings (72 columns), alphanumeric CRT terminal formats (up to 80 columns), and many others. The paper quality is very similar to normal bond stock in surface texture and brightness, yielding high-contrast hardcopy from the Statos.

easy operation Only three pushbuttons are needed to control this new computer peripheral. Just press PWR ON and ON LINE — your data source will do the rest. Paper loading is simplicity itself — the operator opens the hinged cover, drops in a roll of paper, draws the start of the paper to the front of the machine, and closes the cover. Z-fold paper is even simpler: The paper is drawn through the mechanism from a box below, then out the front of the machine as with roll paper.



computer interfacing with plug compatibility



Is Statos 21 really plug-compatible? Yes! But it is *more* than a simple replacement for your printer. It is an augmentation to existing peripheral equipment configurations, functioning as both a printer and a plotter. Yet it "plugs-in" without hardware modifications. Plug-in interfacing can be supplied for users of IBM, Univac, CDC, and other large systems, as well as a variety of minicomputers.

IBM-360 Statos 21 is an attractive addition to the wide variety of peripherals now available to the System 360 (or 370) user. It adds a high speed alternative to the usual complement of line printers *and* a high-speed graphics capability, greatly extending the data handling power of the 360 installation.

Statos 21 operates on-line with System 360 (370) through a stored program controller which performs the functions of character generation, forms control, input and output data buffering, and channel subcontrol. The controller is designed to emulate standard IBM peripheral controllers, thus simplifying software linkages to the operating system. Varian provides complete interface software and system integration to solve the user's total graphics problem.

minicomputers Many applications of Statos 21 are well within the capabilities of that growing new class of computer, the mini. Printing with Statos 21 is as easily accomplished with a small computer as with a large one. And while general graphic problems associated with dot matrix plotting usually require the extensive core and disc facilities of large computers, if some external storage medium is available to a minicomputer (tape, disc, drum), the merging of fixed formats and variable information can be handled easily by the mini. Graphs plotted on labeled and scaled axes are an example. Applications involving both CRT displays and Statos hardcopy are often organized around a small computer; this allows flexibility in communication outside the display system as well as improved organization within it. The Varian 620 series minicomputer has been used with Statos in a wide variety of applications; interfacing and support programs are extensive. Interfacing to HP, DEC, and other popular mini's is also available.



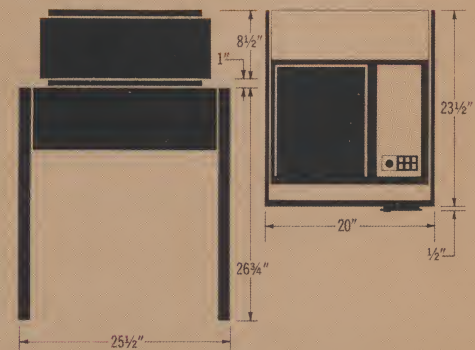
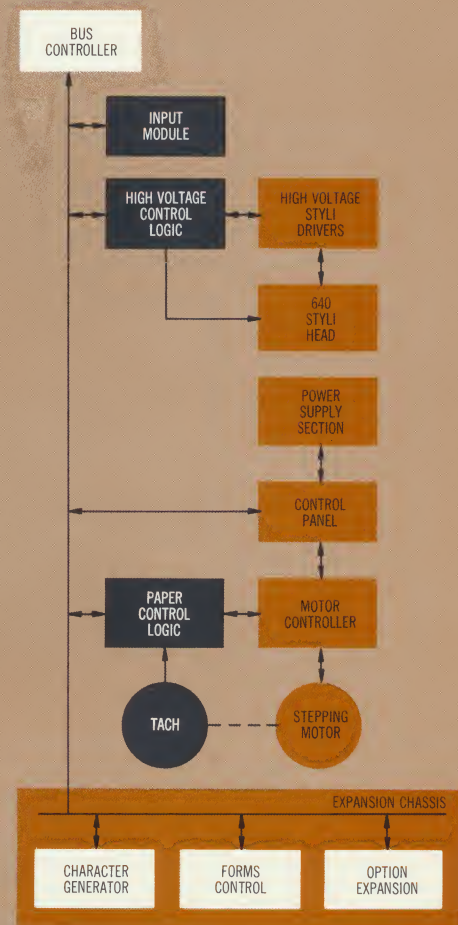
designed for simplicity and reliability

electrostatic writing Statos 21 transforms your digital computer output into hardcopy with its electrostatic writing technique — a non-impact, silent means of graphics production which employs the same kind of digital electronics used in your computer. During the writing process, dielectric-coated paper passes over a fixed writing head containing conducting styli. The styli are individually activated by digital input data, producing electrostatic charges on the paper which become visible after passing through a liquid toner suspension. A permanent high-contrast plot then emerges from the Statos as an exact record of your data.

bus organization Low-cost, flexible interfacing? We did it with the internal bus structure of Statos 21. A common set of data and address buses, very similar to the typical computer input/output channel, is used throughout the machine, simplifying the addition of accessory functions and the design of computer interfaces. For the user, this means lower costs, flexibility in accommodating future accessories, and simple fault isolation.

paper control The incremental paper drive of Statos 21 provides for great programming flexibility and adaptation to the speed of the data source. For data sources having bi-directional communication with the Statos (e.g., computers), the stepping rate of the paper drive is automatically accelerated to the fastest constant rate provided by the data source, up to 835 steps per second. Deceleration is also controlled by the Statos 21, provided a slow-down warning is given by the data source when operating above 300 steps per second. For data sources without two-way communication with Statos (tape transports, etc.), the paper controller may receive paper movement commands at random time intervals, provided a minimum delay of 6 milliseconds between steps is maintained.

functional packaging Statos 21 is packaged in two major assemblies: The basic unit and the pedestal. Model 2110, housed entirely in the basic unit, may be used in a desk-top configuration or with an optional pedestal as a convenient housing for Z-fold paper. The Model 2111 includes a pedestal for the character generator, other electronics, and power supplies associated with its expanded functions, as well as for Z-fold paper.



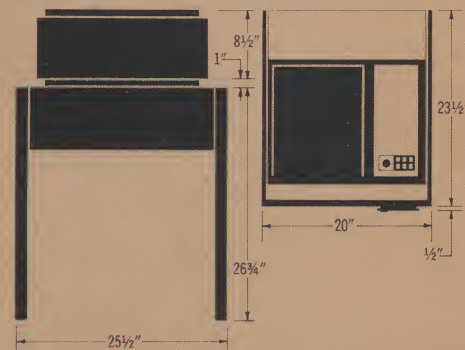
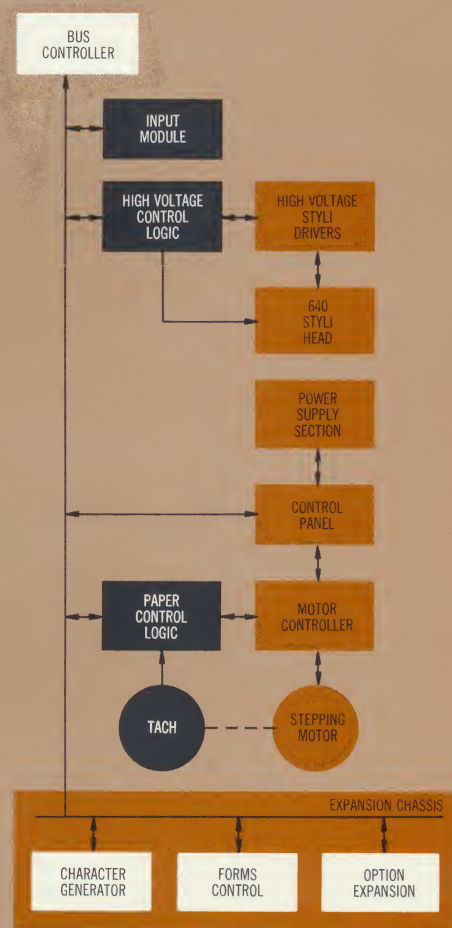
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specifications

Statos 21



Paper Width	8½ inches (21.6 cm)
Paper Form	Roll or Z-fold
Styli Configuration	640 across 8 inches (20.3 cm)
Stylus Density	80 styli per inch (0.0125-inch spacing) (0.318 mm)
Step Increment	80 steps per inch (0.0125-inch step size) (0.318 mm)
Maximum Asynchronous Stepping Rate	167 steps per second (equivalent to 1000 alphanumeric lines per minute)
Maximum Synchronous Stepping Rate	835 steps per second (equivalent to 5000 alphanumeric lines per minute)
Minimum Paper Speed	0.01 inch per second (0.254 mm)
Temperature	+40° to 110° F (5° to 43° C)
Humidity	15% to 85%
Altitude	To 7,500 feet (2,250 m)
Interfaces	On-line interfaces to large and small computers, modems, and tape drives

Model 2110

Configuration	Housed in table-top Basic Unit, optional pedestal used to accommodate Z-fold paper only
Size	20 x 24 x 10 inches (50.8 x 61.0 x 25.4 cm)
Weight	85 pounds, dry (38.7 kg)
Features	All basic plotting electronics

Model 2111

Configuration	Housed in Basic Unit and Pedestal, pedestal contains Z-fold paper and electronics associated with expanded features of Model 2111
Size	25½ x 26 x 36¾ inches overall (64.8 x 66.0 x 93.2 cm)
Weight	155 pounds, dry (70 kg)
Features	All basic plotting features plus a character generator with controller which accepts ASCII coded (or other optional code) characters, stores them in an 80-character buffer, and prints them in 5 x 7 dot matrix form a line at a time. Two sizes and four orientations of characters are provided and may be mixed within a line. Plotting may be simultaneous with printing.
Options	Forms Control (vertical tabs programmed by plugboard)



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